Date of Issue:
25 February 2014

SAFETY DATA SHEET

1. SUBSTANCE AND SOURCE IDENTIFICATION

Product Identifier

SRM Number: 913b
SRM Name: Uric Acid
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is certified as a chemical of known purity. It is intended primarily for use in the calibration and standardization of procedures for uric acid determinations employed in clinical analysis and for routine critical evaluation of the daily working standards used in these procedures. A unit of SRM 913b consists of one bottle containing 10 g of crystalline uric acid.

Company Information

National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Stop 2300
Gaithersburg, Maryland 20899-2300

Telephone: 301-975-2200
FAX: 301-948-3730
E-mail: SRMMSDS@nist.gov
Website: http://www.nist.gov/srm

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
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2. HAZARDS IDENTIFICATION

Classification

Physical Hazard: No known hazards
Health Hazard: No known hazards

Label Elements

Symbol
No symbols required.

Signal Word
No signal word required.

Hazard Statement(s)
No applicable hazard statements.

Precautionary Statement(s)
No applicable hazard statements.

Hazards Not Otherwise Classified: None.

Ingredients(s) with Unknown Acute Toxicity: None.

3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

Substance: Uric Acid

Other Designations

2,6,8-Trihydroxypurine; uric oxide

Components	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Uric Acid	69-93-2	200-720-7	100

4. First Aid Measures

Description of First Aid Measures

Inhalation: If adverse effects occur, remove to well-ventilated (uncontaminated) area. If not breathing, qualified personnel should give artificial respiration. Seek immediate medical attention.

Skin Contact: Rinse affected skin with water for at least 15 minutes, then wash thoroughly with soap or mild detergent and water. If skin irritation persists, seek medical aid and bring the container or label.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes.

Ingestion: Contact local poison control.

Most Important Symptoms/Effects, Acute and Delayed: May cause mild or mechanical eye, skin, or respiratory tract irritation

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek immediate medical attention.

5. Fire Fighting Measures

Fire and Explosion Hazards: Negligible fire hazard. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media

Suitable: Regular dry chemical, carbon dioxide, water, or alcohol-resistant foam.
Unsuitable: None listed.

Specific Hazards Arising from the Chemical: Not applicable.

Special Protective Equipment and Precautions for Fire-Fighters: Move container from fire area if it can be done without personal risk. Avoid inhalation of material or combustion by-products. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 0 Fire = 0 Reactivity = 0

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection". Keep out of waters supplies and sewers.

Methods and Materials for Containment and Clean up: Collect in appropriate container for disposal.

7. Handling and Storage

Safe Handling Precautions: Avoid dust formation. Avoid breathing vapors, mist or gas. See Section 8, "Exposure Controls and Personal Protection".

Storage and Incompatible Materials: Store in a well-ventilated area. Keep separated from incompatible substances (oxidizing materials, acids, bases).

8. Exposure Controls and Personal Protection

Exposure Limits: No occupational exposure limits have been established for uric acid. This material is a crystalline material and adequate inhalation/respiratory protection should be used to minimize exposure. The OSHA exposure limits for Particulates Not Otherwise Regulated are listed below.

OSHA (PEL): 15 mg/m^3 (TWA)
5 mg/m^3 (TWA)

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection Measures: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye Protection: Splash resistant safety goggles and emergency eyewash are recommended.

Skin and Body Protection: Chemical resistant clothing and gloves are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Properties	Uric Acid
Molar Mass (g/mol)	168.11
Molecular Formula	$C_5H_4N_4O_3$
Appearance (physical state, color, etc.)	beige crystalline solid.
Odor	odorless
Odor threshold	not available
pH	acidic in solution
Evaporation rate	not available
Melting point/freezing point	>300 °C (>572 °F) – decomposes
Relative Density (water = 1)	1.9
Density	not available
Vapor Pressure	not available
Vapor Density (air = 1)	not available
Viscosity	not available
Solubilities	slightly soluble in water; soluble in glycerol, alkali hydroxide solution, concentrated sulfuric acid
Partition coefficient (n-octanol/water)	not available
Thermal Stability Properties	
Autoignition Temperature	not available
Thermal Decomposition	not available
Initial boiling point and boiling range	decomposes
Explosive Limits, LEL (Volume %)	not available
Explosive Limits, UEL (Volume %)	not available
Flash Point (Closed Cup)	not available
Flammability (solid, gas)	not available

10. STABILITY AND REACTIVITY

Reactivity: This material is stable at normal temperatures and pressure.

Stability: X Stable _____ Unstable

Possible Hazardous Reactions: Not applicable.

Conditions to Avoid: None reported.

Incompatible Materials: Oxidizing materials, acids, bases.

Hazardous Decomposition: Oxides of carbon and nitrogen; cyanides.

Hazardous Polymerization: _____ Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: X Inhalation X Skin X Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Irritation of skin, eye or respiratory tract may occur.

Potential Health Effects (Acute, Chronic, and Delayed)

Inhalation: May cause respiratory tract irritation.

Skin Contact: May cause irritation.

Eye Contact: May cause irritation

Ingestion: May cause irritation.

Numerical Measures of Toxicity

Acute Toxicity: Not classified.
No data available

Skin corrosion/irritation: Not classified.
No data available.

Serious eye damage/eye irritation: Not classified.
No data available.

Respiratory sensitization: Not classified.
No data available.

Skin sensitization: Not classified.
No data available.

Germ Cell Mutagenicity: Not classified.
Human, 10 mmol/L.

Carcinogenicity: Not classified.

Listed as a Carcinogen/Potential Carcinogen _____ Yes _X_ No
Uric acid is not listed by IARC, NTP or OSHA as a carcinogen or potential carcinogen.

Reproductive Toxicity: Not classified.
Oral, rat TDLo: 5040 mg/kg (4 week)

STOT, Single Exposure: Not classified.
No data available.

STOT, Repeated Exposure: Not classified.
No data available.

Aspiration Hazard: Not classified.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data: No data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with all applicable federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: Not regulated by DOT or IATA.

15. REGULATORY INFORMATION

U.S. Regulations

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Section 313 (40 CFR 372.65): Not regulated.

OSHA Process Safety (29 CFR 1910.119): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH:	No
CHRONIC HEALTH:	No
FIRE:	No
REACTIVE:	No
PRESSURE:	No

State Regulations

California Proposition 65: Not regulated.

U.S. TSCA Inventory: Uric acid is listed.

T**SCA 12(b), Export Notification:** Not listed.

Canadian Regulations: WHMIS Information is not provided for this material.

16. OTHER INFORMATION

Issue Date: 25 February 2014

Sources: ChemADVISOR, Inc., MSDS *Uric Acid* 23 December 2013.

Sigma Aldrich, Material Safety Data Sheet, *Uric Acid, Product Number U2625*, Version 4.1, Revision date 07/12/2012, Print date: 02/05/2014.

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transportation Agency	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	SRM	Standard Reference Material
LC50	Lethal Concentration	STEL	Short Term Exposure Limit
LD50	Median Lethal Dose or Lethal Dose, 50 %	STOT	Specific Target Organ Toxicity
LEL	Lower Explosive Limit	TLV	Threshold Limit Value
MSDS	Material Safety Data Sheet	TPQ	Threshold Planning Quantity
NFPA	National Fire Protection Association	TSCA	Toxic Substances Control Act
NIOSH	National Institute for Occupational Safety and Health	TWA	Time Weighted Average
NIST	National Institute of Standards and Technology	UEL	Upper Explosive Limit
n.o.s.	Not Otherwise Specified	WHMIS	Workplace Hazardous Materials Information System

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The values for this material are given in the NIST Certificate of Analysis.

Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the Internet at http://www.nist.gov/srm.